

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)

Petition of the Intelligent Transportation)
Society of America for Amendment of)
the Commission's Rules To Add)
Intelligent Transportation Services (ITS))
as a New Mobile Service With Co-)
Primary Status in the 5.850 to 5.925 MHz)
Band)

RM-9096

Comments of Saab Systems, Inc.

Saab Systems, Inc., Traffic Systems Division, by its attorney, hereby files comments¹ in support of the Petition for Rulemaking ("Petition") filed by the Intelligent Transportation Society of America ("ITS America") to add Intelligent Transportation Services ("ITS") as a new mobile service in the 5.850-5.925 GHz band. In support of its comments, Saab Systems, Inc. states as follows:

Introduction

Saab Systems, Inc., Traffic Systems Division, is a wholly-owned subsidiary of Saab Combitech AB, a corporation within the Saab Group. Saab Systems, Inc. (hereinafter referred to as "Saab"), an active member of ITS America, is responsible for marketing and sales of the PREMID microwave identification system used in connection with intelligent transportation systems worldwide. Specifically, the PREMID system is currently used for electronic toll collection in numerous countries. To date, close to 500,000 PREMID

¹ By Public Notice DA 97-1106 (May 28, 1997) the Commission established July 28, 1997 as the date for filing comments on the ITS American Petition.

transponders are in use in approximately 500 lanes of PREMID electronic toll collection systems. As acknowledged in ITS America's Petition, Saab's parent company has installed many large read/write toll collection systems worldwide including a free-flow (open highway) electronic toll system in Austria. It has also been selected to build a free flow electronic toll collection system for the Melbourne city link in Australia. As a result of its extensive involvement in, and commitment to, intelligent transportation system activities, Saab is vitally interested in the ITS America Petition.

The 5.850-5.925 GHz Band Is Suitable for DSRC Systems

Saab fully supports the ITS America Petition and urges the Commission to allocate 75 MHz of spectrum at 5.850-5.925 GHz for ITS and Dedicated Short Range Communications ("DSRC") applications. The 5.850-5.925 GHz band is ideally suited for DSRC operations for a variety of reasons as compared to the 902-928 MHz band.

First, the use of the 5.850-5.925 GHz band will result in a reduction in the distance over which the RF signal will propagate compared to the 902-928 MHz band. In addition, use of the 5.8 GHz band will allow the use of physically smaller transceivers and transponders. These factors will enable system designers to tailor coverage to meet the needs of individual applications through the deployment of multiple transponders and use of triangulation techniques which will provide for greater system accuracy² for electronic toll collection applications.

Second, unlike the 902-928 MHz band which has a limited amount of spectrum available, use of the 75 MHz of spectrum in the proposed ITS band will enable DSRC

² In an open road system debiting environment accuracy is very important to ensure the proper correlation between the transponder and the correct vehicle.

systems to obtain higher data rates and increase the number of channels available therefor. The availability of increased numbers of channels will allow spectrum to be re-used more efficiently. Most importantly, the availability of more channels will allow systems to avoid interference to a greater extent than would be the case with a lesser number of channels.

Third, an allocation such as that proposed by ITS America is consistent with allocations for DSRC communications globally. As noted in the ITS America Petition, CEN, the governing body for European telecommunications standards, has approved the use of 5.795-5.805 GHz for DSRC systems with the possibility that the 5.805-5.815 GHz band will also be allocated for ITS applications. Additionally, Japan, Singapore and Korea have decided to use the 5.8 GHz band for ITS systems.³ A U.S. allocation of the 5.850-5.925 GHz band for DSRC, which is very close to the bands which will be used in Europe and in parts of Asia, will have the following benefits due, at least in part, to the proximity of international allocations:

Production costs for DSRC components and devices will be low since manufacturers can develop products for a worldwide market. This will result in lower prices for those who deploy systems and consumers who use such products.

DSRC products and systems and the benefits thereof will be able to be deployed quickly since development and testing of systems and applications will take place on a global basis.

The number of manufacturers of DSRC products and systems will be larger resulting in greater competition for equipment and services, thereby reducing overall costs to consumers.

U.S. manufacturers will be able to compete in global markets for DSRC systems using domestically produced systems and equipment. This will also open the door for U.S. manufacturers to participate in other related global ITS projects.

³ ITS America Petition, pp. 45-46.

The 902-928 MHz Band is Not Adequate to Meet the Need for DSRC Systems

The ITS America Petition also demonstrates that the current allocation in the 902-928 MHz band is not ideally suited for DSRC applications because it is a band which is already very congested and will become more so in the future. For example, numerous unlicensed low power systems and devices operate in the band including spread spectrum and non-spread spectrum two-way voice systems, field disturbance sensors and others. As low power radio devices proliferate generally, this band will become the home for numerous unlicensed devices creating additional sources of interference. Though interference to 902-928 MHz devices for some applications can be tolerated from time to time, different considerations apply to devices used in connection with DSRC systems. These systems will prove to be invaluable to consumers and public safety agencies alike. For public safety agencies, the need for radio systems to operate in an environment in which RF is relatively predictable and stable is a necessity. As devices proliferate in the 902-928 MHz band, such an environment can not be assured. In fact, the problem of interference to DSRC systems in the 902-928 MHz band is likely to be exacerbated since such devices would be secondary to other systems and/or devices that operate in the band including LMS systems operated Pursuant to Subpart M of Part 90 of the Commission's rules and other ISM devices.

Lastly, even assuming that there were no other users of the 902-928 MHz band, the 902-928 MHz band is not suitable for DSRC operations because the amount of spectrum available in the band is simply insufficient to accommodate the existing, emerging and proposed services which can be provided by DSRC applications. In this regard, ARINC demonstrated that an allocation of 75 MHz of spectrum was necessary to

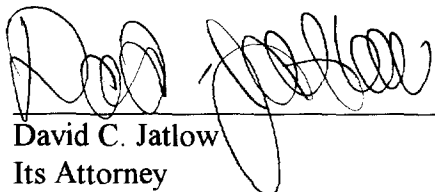
(1) meet the basic needs of DSRC and (2) provide sufficient spectrum to enable DSRC systems to avoid interference to others in the band.

Conclusion

Saab enthusiastically supports the ITS American Petition since an allocation of 75 MHz of spectrum in the 5.8 GHz band will bring numerous benefits to the public. For the foregoing reasons, Saab Systems, Inc. requests that the Commission grant the Petition for Rule Making filed by the Intelligent Transportation Society of America to allocate the 5.850-5.925 GHz band on a co-primary basis for Intelligent Transportation Service.

Respectfully submitted,

Saab Systems, Inc.



David C. Jatlow
Its Attorney

Young & Jatlow
2300 N Street, N.W.
Suite 600
Washington, D.C. 20037
(202) 663-9080
Fax (202) 331-8001

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